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TRANSMITTAL FORM

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Application Number	10/669,959
Filing Date	September 23, 2003
First Named Inventor	Haiyou Wang
Art Unit	Unknown
Examiner Name	Not Assigned
Total Number of Pages in This Submission: 155	Attorney Docket Number: 17462-5

ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☐ Amendment/Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
- ☑ Information Disclosure Statement
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- ☐ Status Letter
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  PTO/SB/08A
  PTO/SB/08B, with 18 non-patent literature documents; return postcard

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Henry E. Naylor Kean, Miller, Hawthorne, D'Armond, McCowan & Jarman, L.L.P.
Signature	Henry E. Naylor
Date	

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Typed or printed name	Henry E. Naylor, #27,461		
Signature	Henry E. Naylor	Date	7/19/2004

IN THE UNITED STATES OF AMERICA

PATENT AND TRADEMARK OFFICE

APPLICANT(S): HAIYOU WANG
R. TERRY K. BAKER

SERIAL NO.: 10/669,959

TITLE: CATALYST FOR THE GENERATION OF CO-FREE HYDROGEN FROM METHANE

DOCKET NO.: 17462-5

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Applicant, through his attorney, submits Form PTO/SB/08A and PTO/SB/O8B, which are attached. The patents, publications or other information listed on the attached form are those of which he is aware, which he believes may be material to the examination of this application and in respect of which there may be a duty to disclose in accordance with 37 CFR § 1.56.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 § C.F.R. 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

This information is based upon information supplied by the inventor and information in the attorney's file.

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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 1 of 1

Complete if Known	
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First Named Inventor	HAIYOU WANG
Group Art Unit	Unknown
Examiner Name	Unknown
Attorney Docket Number	17462-5

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	U.S. Patent Document Number	Kind Code[2] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	20020151604	A1	Detering etal.	10-17-2002	
	2	6,293,979		Choudhary etal.	09-25-2001	
	3	6,395,197		Detering et al.	05-28-2002	
	4	6,509,000	B1	Choudhary, et al.	01-21-2003	
	5	20020007594	A1	Muradov, Nazim Z.	01-24-2002	
	6	6,436,354		Priegnitz, et al.	08-20-2002	

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document Office[3]	Number[4]	Kind Code[5] (if known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

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[1] Unique citation designation number. [2] See attached Kinds of U.S. Patent Documents. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

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Sheet 1 of 2

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	1	P. Chen, H.-B., Zhang, G.-D. Lin, Q. Hong and K.R. Tsai "Growth of Carbon Nanotubes by Catalytic Decomposition of CH4 or CO on A Ni-MgO Catalyst", Carbon Vol. 35, No. 10-11, pp. 1495-1501, Great Britain, 1997.	
	2	Sakae Takenaka, Hitoshi Ogihara, Ichiro Yamanaka, Kiyoshi Otsuka, "Decomposition of methane over supported-Ni catalysts: effects of the supports on the catalytic lifetime", Applied Catalysis A: General 217 (2001) pp. 101-110.	
	3	M.A. Ermakova, D. Yu. Ermakov, G.G. Kuvshinov, and L.M. Plyasova, "New Nickel Catalysts for the Formation of Filamentous Carbon in the reaction of Methane Decomposition", Journal of Catalysis 187, pp. 77-84 (1999).	
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	5	B. Monnerat, L. Kiwi-Minsker, A. Renken, "Hydrogen production by catalytic cracking of methane over nickel gauze under periodic reactor operation", Chemical Engineering Science 56 (2201) pp. 633-639.	
	6	Nazim Muradov, "Hydrogen via methane decomposition: an application for decarbonization of fossil fuels", International Journal of Hydrogen Energy 26 (2001) pp. 1165-1175.	
	7	M.A. Ermakova, D. Yu. Ermakov, "Ni/Si02 and Fe/Si02 catalysts for production of hydrogen and filamentous carbon via methane decomposition", Catalysis Today 77 (2002) pp. 225-235.	
	8	Bjorn Gaudernack and Steinar Lynum, "Hydrogen from Natural Gas without Release of C02 to the Atmosphere", Int. J. Hydrogen Energy, Vol. 23, No. 12, pp. 1087-1093, 1998.	
	9	T.V. Choudhary, C. Sivadinarayana, C.C. Chusuei, A. Klinghoffer, and D. W. Goodman, "Hydrogen Production via Catalytic Decomposition of Methane", Journal of Catalysis 199, pp. 9-18 (2001).	
	10	M. G. Poirier and C. Sapundzhiev,"Catalytic Decomposition of Natural Gas to Hydrogen for Fuel Cell Applications", Int. J. Hydrogen Energy, Vol. 22, No. 4, pp. 429-433, 1997.	

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Sheet 2 of 2

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NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T[2]
	11	Rita Aiello, Jeffrey E. Fiscus, Hans-Conrad zur Loye, Michael D. Amiridis, "Hydrogen production via the direct cracking of methane over Ni/Si02: catalyst deactivation and regeneration", Applied Catalysis A: General 192 (2000) pp. 227-234	
	12	Lingyu Piao, Yongdan Li, Jiuling Chen, Liu Chang, Jerry Y.S. Lin, "Methane decomposition to carbon nanotubes and hydrogen on an alumina supported nickel aerogel catalyst", Catalysis Today 74 (2002) pp. 145-155.	
	13	T. Ishihara, A. Kawahara, A. Fukunaga, H. Nishiguchi, H. Shinkai, M. Miyaki, and Y. Takita, "CH4 Decomposition with a Pd-Ag Hydrogern-Permeating Membrane Reactor for Hydrogen Production at Decreased Temperature", Ind. Eng. Chem. Res. 2002, 41, pp. 3365-3369.	
	14	V. R. Choudhary, S. Banerjee, and A. M. Rajput, "Continuous Production of H2 at Low Temperature from Methane Decomposition over Ni-Containing Catalyst Followed by Gasification by Steam of the Carbon on the Catalyst in Two Parallel Reactors Operated in Cyclic Manner, Journal of Catalysts 198, 136-141	
	15	Naresh Shah, Devadas Panjala, and Gerald P. Huffman, "Hydrogen Production by Catalytic Decomposition of Methane", Energy & Fuels 2001, 15, pp. 1528-1534.	
	16	Zongquan Li, Jiuling Chen, Xixiang Zhang, Yongdan Li, Kwok Kwong Fung, "Catalytic synthesized carbon nanostructures from methane using nanocrystalline Ni", Carbon 40 (2002), pp. 409-415.	
	17	Tiejun Zhang, Michael D. Amiridis, "Hydrogen production via the direct cracking of methane over silica-supported nickel catalysts", Applied Catalysis A: General (1998) pp. 161-172.	
	18	Yongdan Li, Jiuling Chen, Yongning Qin, and Liu Chang, "Simultaneous Production of Hydrogen and Nanocarbon from Decomposition of Methane on a Nickel-Based Catalyst", Energy & Fuels 2000, 14, pp. 1188-1194.	

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